

Remarks / Arguments

Formal Objections

The Examiner objected to the length of the abstract. The abstract has been amended and is now less than 150 words in length.

Substantive Objections/Rejections

The Applicant has cancelled claims 1- 40 as filed, without prejudice.

New claims 41-77 include two independent claims: claim 41 and claim 67.

Claim 41 relates to a method for simultaneous multi-user editing of a document by a plurality of users including a first user and a second user, wherein the document includes primary data. The primary data is divided into two or more sections. Each section is stored in a separate primary container. The primary containers are part of a master document tree data structure which is stored in a file system that is accessible to a server. A copy of at least part of the master document tree is transmitted to a first client operated by the first user. A copy of at least part of the master document tree is transmitted to a second client operated by the second user. The parts of the master document tree transmitted to the first and second user may be different parts of the master document tree. Subsequently, a first lock request is received from the first client. The first lock request identifies a first group of primary containers which correspond to the first part of a document.

If the first user may lock each of the containers in the first group of primary containers, then the containers are locked for the first user. A first confirm lock message is transmitted to the first client. A first update message is sent to the second client to indicate that the containers in the first group of primary containers has been locked. A first post request is received from the first client. The first post request includes one or more new or modified primary containers storing a modified version of the first part of the document. The master document tree is modified in accordance with the first post request. A second update message is transmitted to the second client. The second update message includes the one or more new or modified primary containers, including the modified version of the first part of the document.

If the first user may not lock each of the containers in the first group of primary containers, then a refused lock message is transmitted to the first user.

Bray (US 6,529,905) describes a system in which an XML document is stored in a hierarchical tree. A user may obtain various types of locks on a part of the hierarchical tree. The most relevant of these is the "edit lock". One user is permitted to obtain an edit lock on part of the hierarchical tree, edit a portion of the document tree stored in that part of the hierarchical tree and subsequently release the edit lock. Another user may subsequently edit the same part of the tree.

Bray does not describe numerous parts of the method of claim 1. For example, Bray does not describe the transmission of any part of the hierarchical tree from a server to a client operated by a user. Bray does not describe transmitting a first update message to a second user to identify locked sections of the document. Bray does not describe transmitting a second update message to the second user to provide new or modified portions of the documents.

Brown (US 6,067,551) is a Microsoft patent that appears to describe a very rudimentary multi-user editing mechanism. It is very different from both the present invention and Bray. Brown describes a system in which a Multi-User Control File (MCF) is used to track the editing of a document by different users. Each user obtains a local copy of the document and can independently edit his or her local copy of the document. When a user attempts to save the document, a procedure is followed by software operated on the user's own computer to reconcile any conflicting edits made by the user (referred to below as the "current saver") and any user (referred to below as the "previous saver") who previously saved the document since the time at which the current saver obtained a copy of the document. To the extent that there are no conflicts between the edits made by the current saver and any previous saver, the different edits are retained. To the extent that the different edits conflict (i.e. relate to the same portion of the document), then current saver can decide which edits to retain). This method has no meaningful concept of locking portions of a document. The only lock is one that applies to the entire document and is only in place during a save. The conflict resolution mechanism is manual and conflicts are resolved while the document is unlocked, requiring a second

save to save the result of the resolution process. This could itself lead to more conflicts if any other user has saved the document between the current savers first and second saves. Brown does not describe any mechanism for sending update messages to user to indicate that parts of the document are locked or to identify changes to the document. In fact, such update messages are entirely inconsistent with Brown, since users are able to freely edit their local copies without any knowledge or limitation based on what other users are doing.

Neither Bray nor Brown identify numerous parts of the method of claim 1. Furthermore, the reconciliation process of Brown is entirely inconsistent with the lock based model of Bray. The two documents cannot be combined by a skilled person, since they provide different and inconsistent approaches to the problem of multi-user document editing.

The Applicant respectfully submits that claim 1 is patentable over Bray and Brown.

Claims 42 – 66 are dependent on claim 1 and are patentable over Bray and Brown for the same reasons as claim 1.

Independent claim 67 relates to a method for simultaneous multi-user document editing of a document by a plurality of users including a first user and a second user, wherein the document includes primary data and summary information. The summary information is stored in a parent container. The primary data is divided into two or more sections, each of which is stored in a separate primary container. The primary containers are children of the parent container and together the containers are part of a master document tree data structure that is stored in a file system accessible to a server. At least a part of the master document tree is transmitted to a first client operated by the first user. At least a part (and possible a different part) of the master document tree is transmitted to a second client operated by the second user.

A first lock request is received from the first user relating to a first group of primary containers, relating to a first part of the document. If the first user may lock the primary containers identified in the first lock request, the containers are locked for the first user.

A second lock request is received from the second user relating to the parent container. If the second user can lock the parent container it is locked for the second user.

This allows the second user to edit the summary information while the first user is simultaneously editing the first part of the document.

Bray has a hierarchical tree but does not allow different users to simultaneously edit two containers in the same branch of document tree. See Bray at 7:20-45.

Brown does not require comment with respect to claim 67, since there is no concept of a tree data structure or of any relevant locking mechanism for parts of a document in that reference.

The Applicant respectfully submits that claim 67 is patentable over Bray and Brown.

Claims 68 to 77 are dependent on claim 67 and are patentable for the same reasons as claim 67.

The Applicant has reviewed the other documents cited by the Examiner and submits that the claims are patentable over that art. Similarly, the Applicant is filing an IDS contemporaneously herewith. The Applicant submits that the claims are patentable over the art identified in the IDS.

Errors in the Published Application

Applicant has noted the following errors in publication No. 2002/0065848A1, which was published on May 30, 2002:

- (i) The table following paragraph 128 is missing.
- (ii) Appendices A, B, C and D, which follow paragraph 472, are missing.

The numbering of paragraphs in the PTO's publication differs from the numbering of paragraphs in the application as submitted. The paragraph references above are based on the published application.

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Reply to Office Action of December 7, 2004

The Applicant respectfully requests that the publication be re-issued with these omitted sections properly included.

Conclusion

In view of the foregoing comments, it is respectfully submitted that the application is now in condition for allowance. If the Examiner has any further concerns regarding the language of the claims or the applicability of the prior art, the Examiner is respectfully requested to contact the undersigned at 416-957-1630.

Respectfully submitted,
Richard Walker et al.

A handwritten signature in cursive script, appearing to read "Bhupinder Randhawa".

Bhupinder Randhawa, No. 47276
Bereskin & Parr, Customer No. 001059